



## ecology and environment, inc.

Global Environmental Specialists

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### MEMORANDUM

DATE: June 29, 2015

TO: Eric Nuchims, Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-4 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, John Day Vapor Response Site,  
John Day, Oregon**

REF: TDD: 15-05-0005 PAN: 1004530.0004.111.02

The data quality assurance review of 8 water samples collected from the John Day Vapor Response site in John Day, Oregon, has been completed. Diesel range organics analysis (Ecology Method NWTPH-Dx) was performed by TestAmerica, Inc., Tacoma, Washington. All sample analyses were evaluated following EPA's Stage 2B and/or 4 Data Validation Electronic and/or Manual Process (S2B/4VE/M).

The samples were numbered:

15053124	15053125	15053126	15053127	15053128
15053129	15053130	15053131		

#### Data Qualifications:

##### 1. Sample Holding Times: Acceptable.

The samples were maintained at  $< 6^{\circ}\text{C}$ . The samples were collected on June 3 or 4, 2015, extracted on June 10 or 11, 2015, and analyzed by June 12, 2015, therefore meeting QC criteria of less than 7 days between collection and extraction for water samples, and less than 40 days between extraction and analysis.

##### 2. Initial Calibration: Acceptable.

Calculations were verified as correct. All relative percent differences (RPDs) were within the laboratory control limits.

##### 3. Continuing Calibration: Acceptable.

Calculations were verified as correct. All percent differences (%Ds) were within the laboratory control limits.

**4. Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Satisfactory.**

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- (0.0245 mg/L) and motor oil-range (0.0237 mg/L) TPHs were detected in the method blank; associated positive sample results less than five times the method blank results were qualified as not detected (U).

**6. System Monitoring Compounds (SMC): Acceptable.**

All recoveries of the SMCs were greater than 10% and within QC criteria.

**7. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**8. Blank Spikes: Acceptable.**

Blank spike results were within QC limits.

**9. Duplicates: Acceptable.**

Spike duplicate results were acceptable.

**10. Quantitation and Quantitation Limits: Acceptable.**

Sample concentrations were correctly calculated.

**11. Laboratory Contact: Not Required.**

No laboratory contact was required.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004) and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

**Data Qualifiers and Definitions**

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

- JH - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a high bias.
- JL - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a low bias.
- JK - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias.
- JQ - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias and falls between the MDL and the Minimum (or Practical) Quantitation Limit (MQL, PQL).
- N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053124

Lab Sample ID: 580-50524-1

Client Matrix: Water

Date Sampled: 06/03/2015 1108

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191946	Instrument ID:	TAC020
Prep Method:	3510C	Prep Batch:	580-191877	Lab File ID:	BO08463.D
Dilution:	1.0			Initial Weight/Volume:	865.6 mL
Analysis Date:	06/12/2015 1642			Final Weight/Volume:	1 mL
Prep Date:	06/11/2015 1207			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.042	<del>Q</del>	0.017	0.13
Motor Oil (>C24-C36)	0.21	<del>Q</del>	0.011	0.29

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	55		50 - 150

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053125

Lab Sample ID: 580-50524-2

Date Sampled: 06/03/2015 1225

Client Matrix: Water

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191946	Instrument ID:	TAC020
Prep Method:	3510C	Prep Batch:	580-191877	Lab File ID:	BO08464.D
Dilution:	1.0			Initial Weight/Volume:	1004.5 mL
Analysis Date:	06/12/2015 1701			Final Weight/Volume:	1 mL
Prep Date:	06/11/2015 1207			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	ND		0.015 U	0.11
Motor Oil (>C24-C36)	0.020 U	JEH	0.0098	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	58		50 - 150

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053126

Lab Sample ID: 580-50524-3

Date Sampled: 06/03/2015 1430

Client Matrix: Water

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191946	Instrument ID:	TAC020
Prep Method:	3510C	Prep Batch:	580-191877	Lab File ID:	BO08469.D
Dilution:	1.0			Initial Weight/Volume:	1034.6 mL
Analysis Date:	06/12/2015 1837			Final Weight/Volume:	1 mL
Prep Date:	06/11/2015 1207			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	ND		0.014 U	0.11
Motor Oil (>C24-C36)	0.027 U	+	0.0095	0.24

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	50		50 - 150

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053127

Lab Sample ID: 580-50524-4

Client Matrix: Water

Date Sampled: 06/03/2015 1805

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191946	Instrument ID:	TAC020
Prep Method:	3510C	Prep Batch:	580-191877	Lab File ID:	BO08466.D
Dilution:	1.0			Initial Weight/Volume:	975.6 mL
Analysis Date:	06/12/2015 1739			Final Weight/Volume:	1 mL
Prep Date:	06/11/2015 1207			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.025 <i>U</i>	<del>LO</del> <i>mu</i>	0.015	0.11
Motor Oil (>C24-C36)	0.030 <i>U</i>	<del>LO</del> <i>mu</i>	0.010	0.26

  

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	64		50 - 150

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053128

Lab Sample ID: 580-50524-5

Date Sampled: 06/03/2015 1330

Client Matrix: Water

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method: NWTPH-Dx	Analysis Batch: 580-191826	Instrument ID: TAC020
Prep Method: 3510C	Prep Batch: 580-191724	Lab File ID: BO08452.D
Dilution: 1.0		Initial Weight/Volume: 928.4 mL
Analysis Date: 06/11/2015 1148		Final Weight/Volume: 1 mL
Prep Date: 06/10/2015 1048		Injection Volume: 1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.062	<del>JE</del> <del>Q</del> <del>ML</del>	0.016	0.12
Motor Oil (>C24-C36)	0.032	<del>JE</del> <del>Q</del> <del>ML</del>	0.011	0.27
Surrogate	%Rec	Qualifier	Acceptance Limits	
o-Terphenyl	65		50 - 150	

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053129

Lab Sample ID: 580-50524-6

Date Sampled: 06/03/2015 1425

Client Matrix: Water

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191826	Instrument ID:	TAC020
Prep Method:	3510C	Prep Batch:	580-191724	Lab File ID:	BO08453.D
Dilution:	1.0			Initial Weight/Volume:	994.8 mL
Analysis Date:	06/11/2015 1207			Final Weight/Volume:	1 mL
Prep Date:	06/10/2015 1048			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.033	U	0.015	0.11
Motor Oil (>C24-C36)	0.056	U	0.0099	0.25
Surrogate	%Rec	Qualifier	Acceptance Limits	
o-Terphenyl	63		50 - 150	

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053130

Lab Sample ID: 580-50524-7

Date Sampled: 06/03/2015 1610

Client Matrix: Water

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191826	Instrument ID:	TAC020
Prep Method:	3510C	Prep Batch:	580-191724	Lab File ID:	BO08454.D
Dilution:	1.0			Initial Weight/Volume:	991.4 mL
Analysis Date:	06/11/2015 1226			Final Weight/Volume:	1 mL
Prep Date:	06/10/2015 1048			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.040	<del>GM</del>	0.015	0.11
Motor Oil (>C24-C36)	0.10	<del>GM</del>	0.0099	0.25
Surrogate	%Rec	Qualifier	Acceptance Limits	
o-Terphenyl	64		50 - 150	

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# Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053131

Lab Sample ID: 580-50524-8

Date Sampled: 06/03/2015 1845

Client Matrix: Water

Date Received: 06/05/2015 0825

## NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-191946	Instrument ID:	TAC020
Prep Method:	3510C	Prep Batch:	580-191877	Lab File ID:	BO08467.D
Dilution:	1.0			Initial Weight/Volume:	1036.7 mL
Analysis Date:	06/12/2015 1758			Final Weight/Volume:	1 mL
Prep Date:	06/11/2015 1207			Injection Volume:	1 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
#2 Diesel (C10-C24)	0.72	Y	0.014	0.11
Motor Oil (>C24-C36)	0.092 U	Q MW	0.0095	0.24

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	69		50 - 150

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